

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for auto black expansion in an image sensor, comprising:
 - (a) comparing the voltage level of processed pixel signals with a first set voltage level;
 - (b) maintaining a first count of a number of pixel signals that are above or below the first set voltage level; and
 - (c) using the count to determine a first digital control signal for adjusting the black level calibration of the processed pixel signals.
2. The method of Claim 1, wherein the adjustments to the black level calibration are made in between fields of pixel signals.
3. The method of Claim 1, wherein the digital control signal comprises 8-bits.
4. The method of Claim 1, further comprising comparing the pixel signals to a second set voltage level and maintaining a second count related to the comparison of the pixel signals to the second level.
5. The method of Claim 4, wherein the second count is used to determine a second digital control signal for adjusting the amplification of the processed pixel signals.
6. The method of Claim 5, wherein adjustments to the amplification of the processed pixel signals are only made after adjustments to the black level calibration have adjusted the pixel signals to a desired voltage level.
7. An image sensor for processing image signals, comprising:
 - (a) auto black expansion circuitry for adjusting the relative voltage level of the image signal;
 - (b) a black level voltage input;
 - (c) a comparator, the comparator comparing the processed pixel signals to the desired black level signal;
 - (d) a counter for maintaining a count related to the comparison performed by the comparator; and

(e) a digital controller for utilizing the count maintained by the counter to determine desired adjustments to the auto black expansion circuitry.

8. The image sensor of Claim 7, further comprising a mid-level voltage input, and a second comparator for comparing the processed pixel signals to the mid-level voltage input.

9. The image processor of Claim 8, further comprising automatic gain control circuitry, wherein the digital controller utilizes the count of the second counter to determine adjustments to the automatic gain control circuitry.

10. The image processor of Claim 7, wherein the adjustments to the auto black expansion circuitry are made in between fields of pixel signals.

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